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AD 667 196

ON OVERVIEW OF RECENT ADVANCES IN MATERIEL
MANAGEMENT

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Wright Patterson Air Force Base, Ohio

1968

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AN OVERVIEW
OF RECENT ADVANCES IN
MATERIEL MANAGEMENT

- * AIR FORCE RECOVERABLE ASSEMBLY MANAGEMENT SYSTEM (AFRAMS)
- * AIR FORCE EQUIPMENT MANAGEMENT SYSTEM (AFEMS)
- * BASE STOCKAGE MODEL
- * EXPANSION OF AF STOCK FUND
- * INDUSTRIAL FUNDING - DEPOT MAINTENANCE
- * LOGGY SORT

AIR FORCE RECOVERABLE ASSEMBLY MANAGEMENT SYSTEM (AFRAMS)

DEFINITION - RECOVERABLE ASSEMBLIES ARE DEFINED AS CONSUMPTION TYPE ITEMS (XD AND XF CODED) WHICH ARE SUBJECT TO REPAIR AT BASE AND/OR DEPOT LEVEL. THESE ASSEMBLIES ARE TECHNICAL AND COSTLY ITEMS SUBJECT TO SIGNIFICANT PRODUCTION LEAD TIME, AND ARE LIABLE TO ENGINEERING AND DESIGN CHANGES THROUGHOUT THEIR LIFE. REPAIR OF THESE ASSEMBLIES REQUIRES FIXED AND MOBILE REPAIR FACILITIES, COMPLEX AND EXPENSIVE TEST EQUIPMENT, TECHNICAL DATA, SKILLS AND PARTS SUPPORT. THESE FACTORS DEMAND PRECISE CONTROL AND MANAGEMENT FOR RECOVERABLE ASSEMBLIES.

INCEP - VARIOUS STUDIES AND REPORTS MADE OVER THE PAST FEW YEARS HAVE HIGHLIGHTED THE NECESSITY FOR LIFE-CYCLE MANAGEMENT OF RECOVERABLE ASSEMBLY TYPE ITEMS. THE PHILOSOPHIES FOR SUCH A MANAGEMENT SYSTEM WERE PRESENTED TO THE AIR FORCE LOGISTICS COMMAND COUNCIL ON 14 JULY 1965. ON 19 JULY 1965, GENERAL KENNETH B. HOBSON, THE AFLC COMMANDER, DIRECTED THE FORMULATION OF A TASK GROUP TO DEFINE A PLAN FOR IMPROVING THE MANAGEMENT OF EXPENDABLE DEPOT-REPARABLE (XD) ITEMS. THE TASK GROUP RECOMMENDED PHASED DEVELOPMENT AND IMPLEMENTATION OF A NEW MANAGEMENT SYSTEM FOR XD ITEMS, AND PUBLISHED A CONCEPTUAL OVERVIEW FOR COMMAND REVIEW AND APPROVAL. ON 1 APRIL 1966 A SYSTEM DESIGN OFFICE WAS ESTABLISHED UNDER THE DIRECTORATE OF SUPPLY, STAFFED WITH SELECTED PERSONNEL FROM OTHER DIRECTORATES TO DEVELOP DETAILED SYSTEM SPECIFICATIONS FOR THE

CLOSE-IN PHASE I CONCEPTS, TO BE COMPLETED BY 1 SEPTEMBER 1966. THE DETAILED SYSTEM DEVELOPMENT WAS TO BE ACCOMPLISHED BY THE CONTROLLER (DATA CENTER) AND THE MISSION DIRECTORATES WITH A TARGET DATE OF 1 JULY 1967 FOR AFLC IMPLEMENTATION. (SUBSEQUENTLY REVISED TO 1 OCTOBER 1967 TO ALLOW MORE TIME FOR PRODUCTION TESTING.)

CONCEPT - THE FOLLOWING MANAGEMENT IMPROVEMENTS WILL RESULT FROM THE OBJECTIVES OF AFRAMS (PHASE I):

a. KNOWLEDGE AND CONTROL OF AF ASSETS - OBTAIN CENTRAL KNOWLEDGE OF AUTHORIZED LEVELS AND ON-HAND ASSETS BY LOCATION AND CONDITION, AND THOSE INTRANSIT AF-WIDE. THIS WILL PERMIT MORE EFFECTIVE REDISTRIBUTION OF EXCESSES AND PRORATING OF AVAILABLE ASSETS AMONG USERS DURING PERIODS OF SHORTAGE, BY PROVIDING MANAGERS WITH THE AF-WIDE STOCK POSITION OF CRITICAL OR SHORT SUPPLY ITEMS.

b. CREDIBILITY OF REQUIREMENTS - ATTAIN A HIGHER DEGREE OF CREDIBILITY IN THE COMPUTED REQUIREMENTS AND RELATED MANAGEMENT PRODUCTS THROUGH CURRENT ASSET KNOWLEDGE, ACTUAL ASSETS INTRANSIT, AVERAGE OF ACTUAL PIPELINE TIME, CONSISTENT I&S AND STOCK CONTROL DATA.

c. EFFECTIVE AND EFFICIENT USE OF DEPOT REPAIR RESOURCES - IMPROVE THE VALIDITY OF THE DEPOT REPAIR REQUIREMENT LEVELD ON THE SPECIALIZED REPAIR ACTIVITY (SRA), BY CONSIDERING AF-WIDE SERVICEABLE EXCESS ASSETS AND INTRANSITS FROM BASE TO DEPOT AS BEING AVAILABLE FOR REDISTRIBUTION. IMPROVE THE MANAGEMENT OF THE ROUTED ITEM REPAIR FUNCTION TO INCREASE OVERALL PRODUCTION CAPABILITY OF MAINTENANCE SHOPS BY DEVELOPMENT OF A ROUTED ITEM PLAN TO DETERMINE ROUTED REPAIR REQUIREMENTS, ENABLE EFFECTIVE PLANNING OF SUPPORT SHOP WORKLOADS, PRODUCE DATA FOR IN-PROCESS STATUS, AND PRODUCE END ITEM COST DATA. MAINTENANCE OPERATING COST WILL BE REDUCED BY

UTILIZING LONG SUPPLY SERVICEABLE ITEMS IN LIEU OF ROUTING REPARABLE ITEMS THROUGH MAINTENANCE SHOPS.

d. EXPLOIT COOPERATIVE INTERSERVICING - PROVIDE FOR FURNISHING ITEMS WHICH ARE IN LONG SUPPLY WORLD-WIDE (AS IDENTIFIED BY DEFENSE LOGISTICS SERVICES CENTER) TO PRIME CONTRACTORS, TO SATISFY INITIAL ACQUISITION REQUIREMENTS FOR SUPPORT OF NEW WEAPONS.

e. ADVANCE TOWARD CURRENCY, CONCURRENCY, AND CONSISTENCY OF DATA - ACHIEVE CONCURRENCY AND CONSISTENCY OF DATA UTILIZED IN MULTIPLE SUB-SYSTEMS, SUCH AS ITEM IDENTIFICATION, STOCK CONTROL, INTERCHANGEABILITY AND SUBSTITUTABILITY. A CENTRAL OPERATION WILL ALIGN AND SYNCHRONIZE CATALOGING AND STANDARDIZATION TO INSURE UNIFORM AND CONSISTENT DATA FOR ALL AF USED ITEMS. AN "EDIT, INDEX, AND ROUTING" OPERATION WILL SCREEN DATA DESTINED FOR ALL AMA SUB-SYSTEMS DIRECTLY INVOLVED IN THE PRIME ITEM MANAGEMENT FUNCTIONS OF REQUIREMENTS DISTRIBUTION AND DUE-IN ASSETS. THIS OPERATION WILL PERFORM CROSS-REFERENCE INDEXING, VALIDATE ESTABLISHMENT OF NEW MASTER RECORDS AND ROUTE DATA TO APPROPRIATE AMAS AND SYSTEMS. IT WILL ALSO PROVIDE A UNIFORM METHOD FOR CONTROLLING AND EXPEDITING THE MOVEMENT OF MECHANIZED ITEM RECORDS, REQUIRED TO BE TRANSFERRED DUE TO CHANGES OF ITEM MANAGEMENT RESPONSIBILITY BETWEEN AMAS.

f. LOGISTICS EVALUATION CAPABILITY - PROVIDE A MEANS FOR MEASURING THE EFFECTIVENESS OF AFRAMS, BY APPLYING CURRENT, CONCURRENT, CONSISTENT, AND INTEGRATED MEASURES OF CONTROL OVER EFFECTIVENESS IN ACQUISITION, REPAIR, AND REDISTRIBUTION FUNCTIONS. HIGH LEVEL AGGREGATIONS OR SUMMARIES WILL PERMIT DIAGNOSTIC INVESTIGATIONS INTO TROUBLESPOT AREAS. UNFAVORABLE PATTERNS WILL BE READILY RECOGNIZED AND WILL ENABLE COR-

CASTING, LEAD-TIME-AWAY, OF SUCH ILLS AS CRITICAL SHORTAGES WHICH EVENTUALLY COULD CAUSE A NOBS CLIMATE.

STATUS - AFRATS PHASE I ENTAILS THE DEVELOPMENT OF 5 NEW SUBSYSTEMS, MAJOR REVISION OF 31 EXISTING SUBSYSTEMS AND 5 NEW INTERFACES WITH SUBSYSTEMS. THESE SUBSYSTEMS ARE CURRENTLY IN THE DATA SYSTEM PROGRAMMING AND TESTING PHASE. INTERFACE TESTING WITH DATA TO BE INTERCHANGED BETWEEN SUBSYSTEMS WILL BEGIN 1 JUNE 1967 AND END 29 JULY 1967. PRODUCTION TESTING WITH LIVE DATA WILL BEGIN 7 AUGUST AND END 26 SEPTEMBER 1967. FULL IMPLEMENTATION AIR FORCE-WIDE IS PLANNED FOR 1 OCTOBER 1967.

AIR FORCE EQUIPMENT MANAGEMENT SYSTEM (AFEMS)

THE AIR FORCE EQUIPMENT MANAGEMENT SYSTEM (AFEMS) IS DESIGNED TO PROVIDE A STANDARD SYSTEM OF EQUIPMENT MANAGEMENT APPLICABLE TO ALL AIR FORCE ACTIVITIES FROM EQUIPMENT USER LEVEL THRU INTERMEDIATE MANAGEMENT LEVELS, TO THE AIR FORCE LOGISTICS COMMAND AS THE INVENTORY MANAGER, AND TO HQ USAF. IT ENABLES THE AIR FORCE TO DETERMINE, AUTHORIZE, ACCOUNT FOR, REPORT AND STORE THE TYPES AND QUANTITIES OF EQUIPMENT REQUIRED TO ACCOMPLISH THE AIR FORCE MISSION, AND ALSO SERVES AS A PRIMARY BASIS FOR EQUIPMENT BUDGET/BUY PROGRAMS. THE SYSTEM EMBRACES THE FOLLOWING:

- a. THE ESTABLISHMENT AND PUBLICATION OF EQUIPMENT ALLOWANCES, (i.e., SELECTED ITEMS AND BASIS OF ISSUE), FOR SPECIFIC FUNCTIONS, MISSIONS, AND INDIVIDUAL DUTIES.
- b. THE ESTABLISHMENT OF SPECIFIC EQUIPMENT AUTHORIZATIONS TAILORED TO THE NEEDS OF EACH AIR FORCE UNIT, WITHIN PRESCRIBED ALLOWANCES.

c. THE SYSTEMATIC REVIEW AND VALIDATION OF EQUIPMENT REQUIREMENTS BY BASE AND MAJOR COMMAND EQUIPMENT MANAGEMENT OFFICERS.

d. CENTRALIZED EQUIPMENT MANAGEMENT AT EACH AIR FORCE BASE UNDER THE DIRECTION OF THE CHIEF OF SUPPLY, WHO IS RESPONSIBLE FOR BASE LEVEL MANAGEMENT OF EQUIPMENT ALLOWANCES, AUTHORIZATIONS, ACCOUNTABLE PROPERTY RECORDS, PHYSICAL INVENTORIES, REPORTS, ON-BASE REDISTRIBUTION, AND RELATED BASE LEVEL EQUIPMENT MANAGEMENT ACTIONS. THIS ACTIVITY IS KNOWN AS THE BASE EQUIPMENT MANAGEMENT OFFICE (BEMO), OR THE EQUIPMENT MANAGEMENT OFFICE (EMO) AT THOSE BASES UTILIZING THE STANDARD BASE LEVEL SUPPLY SYSTEM (UNIVAC 1050-II).

e. CENTRALIZED EQUIPMENT MANAGEMENT AT EACH MAJOR COMMAND ENCOMPASSING COMMAND LEVEL RESPONSIBILITY FOR EQUIPMENT ALLOWANCES, AUTHORIZATIONS, ACCOUNTABLE RECORDS, REPORTS, AND INTRA-COMMAND REDISTRIBUTION OF BASE FUNDED ITEMS. THIS ACTIVITY IS KNOWN AS THE COMMAND EQUIPMENT MANAGEMENT OFFICE (CEMO).

f. REPORTING OF CURRENT AND FORECAST EQUIPMENT AUTHORIZATION ALONG WITH INSERVICE ASSET DATA TO THE USAF EQUIPMENT DATA BANK. THE DATA BANK IS A CENTRAL AIR FORCE LOGISTIC COMMAND ADPE FACILITY DESIGNED TO RECEIVE, EDIT, AND STORE EQUIPMENT AUTHORIZATION AND INVENTORY DATA RECEIVED FROM AIR FORCE BASES. THE DATA BANK OUTPUTS ERROR NOTIFICATIONS AND DATA INFORMATION TO AIR FORCE BASES RELATIVE TO STOCK CONTROL AND EQUIPMENT ALLOWANCE DATA.

g. DETERMINATION OF TIME PHASED ITEM REQUIREMENTS IN SUPPORT OF PROCUREMENT PLANS, BUDGET ESTIMATES, TERMINATION ACTIONS, REFLECTION LEVELS, AND DISPOSAL PROGRAMS.

THE SCOPE, EXTENT AND COMPLEXITY OF AFENS CAN BE CONSIDERED BY
THE FOLLOWING:

- a. ORGANIZATIONS USING EQUIPMENT ITEMS 6,000
- b. BASE EQUIPMENT MANAGEMENT OFFICES (BEMOs) 214
- c. COMMAND EQUIPMENT MANAGEMENT OFFICES (CEMOS) 23
- d. AUTHORIZATION AND ASSET RECORDS 2,200,000
- e. TOTAL LINE ITEMS MANAGED (AIR FORCE
CENTRALLY MANAGED, DSA, CSA, AND BASE
LOCALLY PURCHASED) 102,935

- f. ITEMS CENTRALLY PROCURED AND MANAGED BY 86,054
AIR FORCE LOGISTICS COMMAND (AFLC)

DOLLAR VALUE IMPLICATIONS: 6 BILLION PLUS

g. THE TYPES OF EQUIPMENT MANAGED BY AFENS INCLUDE AIRCRAFT
AND MISSILE GROUND SUPPORT EQUIPMENT, VEHICLES, POWER GENERATORS,
TEST EQUIPMENT, TRAINING DEVICES, AIRCRAFT STARTING UNITS,
COMPRESSORS, PHOTOGRAPHIC EQUIPMENT, SHOP EQUIPMENT, PERSONNEL
EQUIPAGE, AND GROUND COMMUNICATIONS EQUIPMENT.

THE OVERALL AFENS SYSTEM IS OPERATIONAL. THE SYSTEM IS PERIODICALLY
UPDATED FOR IMPROVEMENT TO PROVIDE BETTER CONTROL AND MANAGEMENT,
AS WELL AS TO INSURE INTERFACE BETWEEN OTHER USAF/AFIC LOGISTIC
SYSTEMS. EXTENSIVE REVIEW, ANALYSIS, TESTING AND DE-BUGGING OF
THE USAF EQUIPMENT DATA BANK AND SUPPORTING CONTROL FILES ARE IN
PROCESS AT THE PRESENT TIME.

BASE STOCKAGE MODEL

THE BASE STOCKAGE MODEL (BSM) IS A TECHNIQUE DEVELOPED BY RAND TO IMPROVE THE COST EFFECTIVENESS OF BASE STOCK LEVELS FOR RECOVERABLE SPARE PARTS. FOR RECOVERABLE ITEMS, BASE RESUPPLY CAN COME FROM: BASE PARTS REPAIR, A REQUISITION ON DEPOT STOCKS, OR SOME COMBINATION OF THE TWO, DEPENDING ON SUCH FACTORS AS BASE REPAIR CAPABILITY AND DEPOT RESPONSE CAPABILITY. THE BASE STOCKAGE MODEL PROVIDES A METHOD FOR COMPUTING ITEM STOCK LEVELS AT A BASE, TO ACHIEVE A GIVEN AGGREGATE FILL RATE FOR ALL RECOVERABLE ITEMS, WITH THE LEAST DOLLAR INVESTMENT IN BASE RECOVERABLE INVENTORY. BASE FILL RATE IS DEFINED AS THE PORTION OF TOTAL DEMANDS FOR SUPPLY SUPPORT THAT CAN BE MET WITHOUT DELAY FROM INVENTORY ON HAND. THE BSM COMPUTATION IS APPLIED TO A SINGLE BASE EITHER BY WEAPON OR BY TOTAL BASE SUPPLY ACCOUNT. DATA REQUIRED TO OPERATE THE MODEL ARE: IDENTIFICATION OF RECOVERABLE ITEMS SUBJECT TO REPAIR, PREVIOUS SIX-MONTHS DEMANDS FOR THESE ITEMS, UNIT COST, AND BASE REPAIR OR DEPOT RESUPPLY TIME. THROUGH A SYSTEM ANALYSIS TECHNIQUE, THE MODEL DETERMINES THE LIKELIHOOD OF DEMAND(S) FOR EACH ITEM DURING THE IMMEDIATE FUTURE, AND BY APPLICATION OF A MARGINAL ALLOCATION PROCESS IDENTIFIES THOSE ITEMS FOR STOCKAGE WHICH PROVIDE THE GREATEST "FILL" PROTECTION PER DOLLAR. THIS ALLOCATION PROCESS IS CONTINUED UNTIL THE "TARGET FILL RATE" HAS BEEN ACHIEVED. ALTERNATIVELY THE MODEL CAN MAXIMIZE BASE FILL RATE FOR A SPECIFIED INVESTMENT.

PRELIMINARY TESTS OF THE MODEL CONSISTED OF TAKING DEMAND DATA FOR A SAMPLE OF 2,402 RECOVERABLE ITEMS AT ANDREWS AIR FORCE BASE, AND USING THE FIRST SIX MONTHS OF DATA AS MODEL INPUT TO COMPUTE ITEM STOCK LEVELS REQUIRED TO ACHIEVE A RANGE OF AGGREGATE BASE FILL RATES.

DEMANDS FOR THESE ITEMS FOR THE NEXT SIX MONTHS WERE THEN COMPARED WITH THESE STOCK LEVELS, IN ORDER TO ESTIMATE THE SUPPORT PERFORMANCE THAT WOULD HAVE RESULTED IF THIS METHOD OF SETTING STOCK LEVELS HAD BEEN USED AT THE BASE. IT WAS FOUND THAT THE "ACTUAL" FILL RATES DIFFERED BY LESS THAN 5 PER CENT FROM THE TARGET FILL RATES THAT HAD BEEN USED IN SETTING THE STOCK LEVELS. A SERVICE TEST OF THE BASE STOCKAGE MODEL FOR A LIMITED NUMBER OF RECOVERABLE ITEMS APPLICABLE TO THE F-101 WEAPON SYSTEM WAS CONDUCTED AT HAMILTON AIR FORCE BASE IN 1965. ALTHOUGH LIMITED IN SCOPE, AND CLOSELY MONITORED BY MANAGEMENT INTEREST AND ATTENTION, THIS SERVICE TEST CONFIRMED THE EARLIER EVALUATION OF THE MODEL MADE BY RAND AT ANDREWS AIR FORCE BASE.

IN 1966 THE AFIC CONDUCTED A COMPREHENSIVE TEST OF THE BASE STOCKAGE MODEL AT GEORGE AIR FORCE BASE. THIS TEST INCLUDED ALL OF THE RECOVERABLE ITEMS SUBJECT TO DEMAND AT GEORGE AIR FORCE BASE. THE DSM COMPUTED STOCK LEVELS WERE ENTERED INTO THE BASE SUPPLY COMPUTER (UNIVAC 1050-II) AND THE ACTUAL SUPPORT FOR THE SEVERAL WEAPONS INVOLVED WAS PROVIDED FROM THESE LEVELS THROUGHOUT THE SIX MONTHS TEST PERIOD. TEST LEVELS, USING THE MODEL, WERE COMPUTED AT A 90 PER CENT TARGET FILL RATE. SUPPLY SYSTEM EFFECTIVENESS MEASURED ON-SITE DURING THE TEST WAS 65 PER CENT. THIS TEST HAS DEMONSTRATED THAT THE MODEL CAN BE USED SUCCESSFULLY IN AN OPERATIONAL ENVIRONMENT, TO IMPROVE THE COST EFFECTIVENESS OF INVENTORY INVESTMENT IN SPARE PARTS STOCKED AT BASE LEVEL.

EXPANSION OF THE AIR FORCE STOCK FUND

UNDER THE DEPARTMENT OF DEFENSE RESOURCES MANAGEMENT SYSTEM (RMS), ALL INVENTORY OF EXPENSE TYPE ITEMS MUST BE HELD IN WORKING CAPITAL ACCOUNTS

UNTIL ISSUED TO USERS. WITHIN THE AIR FORCE SUPPLY SYSTEM, EXPENSE TYPE ITEMS CAN BE BROADLY DEFINED AS:

- a. LOCALLY FUNDED SUPPLIES AND MATERIEL.
- b. NON-REPARABLE SPARES INCLUDING AIRCRAFT AND MISSILE SPARE.
- c. REPARABLE ASSEMBLIES NOT CENTRALLY MANAGED BY A WHOLESALE

AIR FORCE INVENTORY CONTROL POINT.

d. END ITEMS OF EQUIPMENT HAVING A UNIT COST OF LESS THAN \$1,000 NOT CENTRALLY MANAGED BY A WHOLESALE AIR FORCE INVENTORY CONTROL POINT. THE BALANCE OF ITEMS IN THE AIR FORCE SUPPLY SYSTEM CAN THEN BE CONSIDERED INVESTMENT TYPE.

THIS RMS REQUIREMENT WILL BE ACCOMPLISHED BY EXPANSION OF THE AIR FORCE STOCK FUND IN THE FOLLOWING MANNER:

- a. REACTIVATING THE MEDICAL/DENTAL DIVISION.
- b. CHANGING THE AVIATION FUELS DIVISION NAME TO THE FUELS DIVISION AND EXPANDING ITS COVERAGE TO INCLUDE MISSILE PROPELLANTS AND OTHER RELATED ITEMS, AND SELECTED GROUND ITEMS.

c. ESTABLISHING A NEW DIVISION TO BE NAMED THE SYSTEMS AND GENERAL SUPPORT DIVISION. THIS NEW DIVISION WILL MANAGE THE PRESENT BASE FUNDED ITEMS PROCURED FROM DSA/GSA/OTHER SERVICES STOCK FUND (OSSF), COMMERCIAL VENDORS, AND PRESENT AIR FORCE CENTRALLY PROCURED DEPOT CONSUMPTION TYPE ITEMS.

THE MANAGEMENT TECHNIQUE TO BE USED IN THE EXPANDED FUELS AND NEW SYSTEMS AND GENERAL SUPPORT DIVISIONS WILL BE INVENTORY AND CAPITAL CONTROL. THIS TECHNIQUE PARALLELS THE SYSTEM THAT IS CURRENTLY IN USE BY THE COMMISSARY AND CLOTHING DIVISIONS OF THE AIR FORCE STOCK FUND, AND PROVIDES FOR DIRECT CONTROL OF APPROVED INVENTORY OBJECTIVES AND INDIRECT CONTROL OF PERFORMANCE. THE EXPANDED STOCK FUND WILL ENCOMPASS BOTH BASE AND DEPOT THE

PRINCIPAL OF BUYING ONCE AND SELLING ONCE. IN OTHER WORDS, AN ITEM WILL BE BOUGHT AND PAID FOR BY THE STOCK FUND AT EITHER DEPOT OR BASE LEVEL WHEN IT FIRST ENTERS THE AIR FORCE SUPPLY SYSTEM. ALL MOVEMENT OF THE ITEM IN THE AIR FORCE FROM DEPOT TO BASE, BASE TO BASE, OR BASE TO DEPOT WILL BE AN INTRA-STOCK FUND TRANSFER WITH NO BILLING AND COLLECTING INVOLVED. A STOCK FUND ITEM WILL BE SOLD ONLY WHEN ISSUED TO A CONSUMING ACTIVITY WITHIN THE AIR FORCE, OR TO AN AUTHORIZED CUSTOMER OUTSIDE OF THE AIR FORCE. THIS SYSTEM IS KNOWN AS A VERTICAL STOCK FUND OPERATION. THE PRESENT PLAN IS TO BEGIN THE EXPANDED OPERATION ON 1 JULY 1967 WHEN ALL DIVISIONS WILL BE OPERATIONAL. THE SCHEDULE PROVIDES FOR CAPITALIZATION OF MEDICAL AND DENTAL ITEMS, GROUND FUELS, MISSILE PROPELLANTS AND THE PRESENT BASE FUNDED ITEMS ON 1 JULY 1967. AIR FORCE DEPOT (CENTRALLY MANAGED) SUPPLY ITEMS WILL NOT BE CAPITALIZED UNTIL 1 JULY 1968; HOWEVER, THEY WILL BE RECORDED AS EXPENSES AT BASE LEVEL STARTING 1 JULY 1967. THE GREATEST IMPACT WITHIN THE AIR FORCE WILL BE FROM THE NEW SYSTEMS AND GENERAL SUPPORT DIVISION OPERATION, WITH THE FIRST PRIORITY BEING GIVEN TO THOSE ITEMS WHICH NOW REQUIRE FUNDING AT BASE LEVEL. AS OF NOW, OPERATING PROGRAMS HAVE BEEN SUBMITTED BY ALL AIR FORCE ACCOUNTS TO BE CAPITALIZED THROUGH THEIR MAJOR COMMANDS TO THE STOCK FUND DIVISION MANAGER. FROM THESE PROGRAMS A DIVISION OPERATING BUDGET HAS BEEN DEVELOPED AND FORWARDED TO THE AIR STAFF FOR DOD AND BOB REVIEW AND APPROVAL. TO GIVE YOU AN IDEA OF THE ORDER OF MAGNITUDE, IT IS ANTICIPATED THAT THE SYSTEMS AND GENERAL SUPPORT DIVISION FY 65 SALES PROGRAM WILL BE 727 MILLION DOLLARS, SUPPORTED BY A PEACE-TIME OPERATING INVENTORY OBJECTIVE OF 155 MILLION DOLLARS. THE TOTAL ESTIMATED FY 65 SALES PROGRAMS FOR ALL DIVISIONS OF THE AIR FORCE STOCK FUND ARE ANTICIPATED TO EXCEED TWO AND ONE-HALF (2 1/2) BILLION DOLLARS (NET).

FUELS	\$1,110	CLOTHING	53
SRUS	727	MED/DENTAL	43
COMMISSARY	729	ACADAMY	2

TOTAL \$2.7 BILLION

DURING FY 68 AFIC WILL COMPLETE THE EXPANSION, MAKE CORRECTIONS AND NECESSARY CHANGES, AND PUBLISH FORMAL PROCEDURES. UNDER THE PRESENT SCHEDULE ALL EXPENSE TYPE ITEMS AT BOTH BASE AND DEPOT LEVEL SHOULD BE IDENTIFIED AND CAPITALIZED BY 1 JULY 1966.

INDUSTRIAL FUNDING - DEPOT MAINTENANCE

ONE ELEMENT OF THE DOD RESOURCES MANAGEMENT SYSTEM (RMS) IS THE DEPOT MAINTENANCE INDUSTRIAL FUND.

UNDER THE RESOURCES MANAGEMENT SYSTEM, EXPENSE OPERATING BUDGETS (EOBs) WILL BE PREPARED FOR EACH DOD ORGANIZATION, AT THE APPROPRIATE ORGANIZATIONAL LEVEL, BASED ON RESOURCES TO BE CONSUMED IN THE PERFORMANCE OF THE RELATED MISSION. ALL OPERATING EXPENSES USED BY AN ORGANIZATION WILL BE "EXPENSED" AGAINST ITS EOB REGARDLESS OF HOW OR WHEN THE ITEM BEING EXPENSED WAS ORIGINALLY PROCURED, OR REGARDLESS OF HOW OR WHEN THE REPLACEMENT FOR THAT ITEM WILL BE PROCURED. THE APPROVED EOB PROVIDES THE AUTHORITY TO CONSUME RESOURCES (AS OPPOSED TO INCURRING OBLIGATIONS) AND THE MANAGEMENT AND CONTROL OF RESOURCES WILL BE BASED ON WHAT WAS USED IN RELATION TO THE AUTHORITY PROVIDED BY THE APPROVED EOB. IN OTHER WORDS, THE OPERATING ORGANIZATION WILL NOT BE GIVEN FUNDS, BUT WILL BE GIVEN THE AUTHORITY TO CONSUME RESOURCES. THE OPERATING ORGANIZATION WILL BE EXPENSED WITH ALL RESOURCES THAT IT USES, REGARDLESS OF HOW THEY MAY BE FINANCED. THE END RESULT IS THAT NO RESOURCES ARE PROVIDED "FREE OF CHARGE," AND FINANCIAL RESPONSIBILITY WILL BE STIMULATED SINCE RESOURCES CAN BE EFFECTIVELY CONTROLLED AND REASONABLY RELATED TO A MISSION ACCOMPLISHMENT OR OUTPUT

PRODUCT AT THE LEVEL OF USE.

IN SUPPORT OF THE RMS CONCEPTS, A TECHNIQUE IS NEEDED TO "EXPENSE" COSTS TO THE PROGRAM OF THE CONSUMER, AT THE TIME OF USE, WHEN THE COSTS WERE INITIALLY INCURRED AT ANOTHER TIME, AT ANOTHER LOCATION, AND BY ANOTHER ORGANIZATION. THIS TECHNIQUE IS PROVIDED THROUGH THE USE OF WORKING CAPITAL ACCOUNTS, WHEREBY THE RELATED COSTS ARE "HELD IN SUSPENSE" UNTIL THE BENEFITING ORGANIZATION USES THE ITEM OR SERVICE. TWO TYPES OF WORKING CAPITAL ACCOUNTS ARE USED IN THE DOD. STOCK FUNDS ARE USED TO HOLD MATERIEL IN SUSPENSE UNTIL CONSUMPTION, AND INDUSTRIAL FUNDS ARE USED TO HOLD IN SUSPENSE COSTS OF ITEMS MANUFACTURED OR SERVICES, SUCH AS REPAIRS, PROVIDED BY DOD AGENCIES. BOTH DEVICES PERMIT CONTROL TO BE FOCUSED ON THE POINT OF CONSUMPTION, RATHER THAN ON THE POINT OF PURCHASE, MANUFACTURE, OR REPAIR.

IN ITS RELATIONSHIP TO RMS, THE INDUSTRIAL FUND IS A MEANS BY WHICH COSTS CAN BE HELD IN SUSPENSE AND LATER CHANGED TO A BENEFITING ORGANIZATION'S PROGRAM ELEMENT CODE. THIS IS A CONCEPT OF EXPENSE ACCOUNTING BASED ON ACCRUAL TECHNIQUES. THE INDUSTRIAL FUND IS ALSO A MEANS OF FINANCING THE DEPOT MAINTENANCE OPERATION. ALL RESOURCES CONSUMED WITHIN DEPOT MAINTENANCE EVENTUALLY BECOME "EXPENSES" OF SOMEONE ELSE. DEPOT MAINTENANCE IS NOT A CONSUMER OF RESOURCES FROM AN RMS END OBJECTIVE POINT OF VIEW. ALL EXPENSES RECORDED IN THE DEPOT MAINTENANCE ARE OFFSET BY REVENUES FROM "SALES," WHICH ARE EXPENSES TO SOMEONE ELSE.

IN SUMMARY, THE CONCEPT WORKS AS FOLLOWS:

- a. THE CUSTOMER (BUYER) BUDGETS HIS WORK REQUIREMENTS AND RECEIVES FINANCIAL AUTHORITY FOR THE WORK HE MAY ORDER FROM THE INDUSTRIAL FUND.
- b. THE INDUSTRIAL FUND (SELLER) PREPARES AN OPERATING BUDGET SHOW-

ING HIS PROJECTED SALES AND OFFSETTING OPERATING EXPENSES. BASED UPON THE FLOW OF "CASH" TO GO IN AND OUT, THE INDUSTRIAL FUND RECEIVES AN INITIAL WORKING CAPITAL TO PROVIDE RESOURCES TO COVER OPERATIONS UNTIL PAYMENTS ARE RECEIVED FROM CUSTOMERS.

c. THE CUSTOMER ORDERS WORK FROM THE INDUSTRIAL FUND THROUGH THE USE OF FUNDED PROJECT ORDERS.

d. THE INDUSTRIAL FUND PERFORMS THE WORK AND IN SO DOING CONSUMES RESOURCES WHICH IT PAYS FOR FROM ITS WORKING CAPITAL.

e. AS WORK IS COMPLETED, THE INDUSTRIAL FUND BILLS THE CUSTOMER AND PAYMENTS ARE USED TO REPLENISH THE INDUSTRIAL FUND WORKING CAPITAL.

DOD HAS ESTABLISHED A DATE OF 1 JULY OF THIS YEAR FOR THE IMPLEMENTATION OF THE AIR FORCE INDUSTRIAL FUND. THE CHARTER FOR THE DEPOT MAINTENANCE DIVISION OF THE AIR FORCE INDUSTRIAL FUND WAS APPROVED BY OSD IN JANUARY 1967.

THE MANAGEMENT OF DEPOT MAINTENANCE IN THE AIR FORCE HAS BEEN CONDUCTED SINCE 1954 WITH A BASIC SYSTEM INITIALLY DESIGNED BY A MANAGEMENT CONSULTING FIRM. THIS BASIC SYSTEM, WITH REFINEMENTS DEVELOPED IN THE ENSUING THIRTEEN YEARS, CONSISTS OF FOUR SUB-SYSTEMS: /a/ WORK MEASUREMENT, /b/ PRODUCTION CONTROL, /c/ LABOR DISTRIBUTION, AND /d/ STANDARD COST ACCOUNTING. THIS SYSTEM IS ENTITLED THE MAINTENANCE ENGINEERING MANAGEMENT SYSTEM (MEMS).

TO IMPLEMENT THE DOD PRESCRIBED CONCEPT, CERTAIN ACCOUNTING AND PRODUCTION ELEMENTS MUST BE ADDED TO THE PRESENT MEMS. THESE ARE: /a/ MAINTENANCE SUPPORT COSTS, /b/ GENERAL AND ADMINISTRATIVE COSTS, /c/ CONTRACT DEPOT MAINTENANCE COSTS, AND /d/ GOVERNMENT FURNISHED MATERIAL USED IN CONTRACT DEPOT MAINTENANCE. THESE ADDITIVES ARE NOW IN PROCESS OF DEVELOPMENT, WITH THE REQUIRED TRAINING TO FOLLOW, AND IMPLEMENTATION ON

1 JULY 1967, AS DIRECTED. AS PREVIOUSLY INDICATED, THE IMPLEMENTATION OF INDUSTRIAL FUNDING, WITHIN THE AIR FORCE, WILL PERMIT CONTROL TO BE FOCUSED ON THE POINT OF CONSUMPTION. THIS IS A MAJOR CHANGE IN THE POINT OF FOCUS. WE ANTICIPATE THAT IN ADDITION TO THE STIMULATION OF FINANCIAL RESPONSIBILITY ON THE PART OF THE CONSUMER, AS ENVISIONED UNDER RBS, TWO CONTROL IMPROVEMENTS OVER DEPOT MAINTENANCE COSTS WILL BECOME AVAILABLE. FIRST, THE DOLLAR AMOUNT OF REVENUE FOR THE INDUSTRIAL FUND WILL PROVIDE AN OVER-ALL MEASURE OF WORK PERFORMED, AND A STARTING POINT IN DETERMINING WHETHER EXPENSES ARE IN LINE WITH RESULTS. SECONDLY, SINCE A MANAGER "PAYS FOR ALL RESOURCES USED," HE IS MORE LIKELY TO CHALLENGE THE TOTAL COSTS OF PERFORMANCE AND CONSEQUENTLY ELIMINATE EXCESSIVE COSTS AND AVOID WASTE. THIS IS NOT TO SAY THAT THE MANAGER HAS DELIBERATELY WASTED RESOURCES, BUT THERE IS A NATURAL TENDENCY TO BE MORE CONCERNED ABOUT SOMETHING THAT ONE HAS TO PAY FOR THAN ABOUT SOMETHING THAT IS FREE.

PROJECT LOGGY SORT

ONE OF THE PRIMARY OBJECTIVES OF THE AIR FORCE LOGISTICS COMMAND IN THE LAST FEW YEARS HAS BEEN TO ACHIEVE A GREATER DEGREE OF INVOLVEMENT BY LOGISTICIANS IN THE CONCEPTUAL AND DEFINITION PHASES OF WEAPONS SYSTEM DEVELOPMENT.

IT IS OUR BELIEF THAT MANY OF THE DECISIONS MADE IN THESE PHASES HAVE A SIGNIFICANT IMPACT NOT ONLY UPON THE METHOD OF FOLLOW-ON SUPPORT PROVIDED, BUT ALSO ON THE DEGREE OF SUCCESS THAT THE AIR FORCE LOGISTICS COMMAND ACHIEVES IN SYSTEMS SUPPORT.

THIS DESIRE FOR INVOLVEMENT SHOULD NOT BE INTERPRETED AS A DESIRE TO "CALL THE SHOTS" FOR FIELD COMMANDERS. IN REALITY, IT IS MERELY A DESIRE TO BE COGNIZANT. IF LEADTIME IS REQUIRED FOR DEVELOPMENT OF CONCEPTS,

DEFINITION OF SPECIFICATIONS, AND PRODUCTION OF HARDWARE, IT IS NOT UNREASONABLE TO ASSUME THAT LOGISTICS SUPPORT CONCEPTS, METHODOLOGY AND SYSTEMS SHOULD ALSO REQUIRE LEADTIME.

THE STATED THREATS AND MASSIVE RETALIATION CONCEPTS OF THE 1950s LED THE USAF TO SUPPORT A POLICY OF MAXIMUM BASE SELF-SUFFICIENCY IN THE AREA OF MAINTENANCE TO WEAPONS SYSTEM. UNDER THIS POLICY, EACH BASE SET AS ITS OBJECTIVE, THE CAPABILITY TO NOT ONLY "FILL THE HOLES" IN THE AIRCRAFT, BUT TO REPAIR ALL OF THE RECOVERABLE ITEMS WHICH HAD FAILED AND WERE REMOVED.

IN KEEPING WITH THIS POLICY, WEAPONS SYSTEM SUPPORT HARDWARE HAS BEEN DEFINED, DESIGNED AND PRODUCED, AT A HIGH INVESTMENT COST, TO PROVIDE THIS CAPABILITY. SPARES AND REPAIR PARTS REQUIREMENTS ARE PREDICATED UPON THIS POLICY. THE NORMAL RESULT OF THIS REQUIREMENTS DECISION IS A RECOVERABLE QUANTITY COMPUTED TO FILL A BASE REPAIR CYCLE AND A WEAR-OUT QUANTITY, WHILE REPAIR PARTS REQUIREMENTS ARE COMPUTED TO MEET A MINIMUM REQUIREMENT BASED UPON SPORADIC DEMANDS.

THE POLICY, PREDICATED UPON THE PREVIOUSLY STATED THREAT AND RETALIATION CONCEPT, DOES NOT ADEQUATELY ADDRESS ITSELF TO MOBILITY AND FLEXIBILITY REQUIREMENTS OF TACTICAL FORCES. AS LONG AS THE THREAT AND RETALIATION CONCEPT REMAINED STABLE, THE MAINTENANCE POLICY WAS MORE THAN ADEQUATE. HOWEVER, WITH THE EXPANSION OF THE SEA CONFLICT, THE VALUE OF THIS POLICY IN SUPPORT OF TACTICAL FORCES NEEDED RE-EXAMINATION. THE SITUATION DEMANDED THAT BASES BE BUILT TO SUPPORT DEPLOYING WEAPONS SYSTEMS. THESE BASES WERE, IN MOST CASES, PROCUREMENT LEADTIME AWAY FROM ACHIEVING A MAXIMUM BASE SELF-SUFFICIENT STATUS. THE RESULT WAS THAT IN-BEING, IN-THEATRE, BASES WERE CALLED UPON TO ASSUME MUCH OF THE AIRCRAFT REPAIR WORKLOAD. THESE IN-BEING BASES SOON REACHED A SATURATION POINT.

IN ADDITION TO BRING PROCUREMENT LEADTIME AWAY, THE NEW BASES ALSO REQUIRED SKILLED PERSONNEL TO OPERATE THE EQUIPMENT WHEN IT ARRIVED. SUPPLY PERSONNEL AND SOPHISTICATED ACCOUNTING EQUIPMENT WERE REQUIRED TO MAINTAIN THE VAST INVENTORIES OF SUPPLIES AND EQUIPMENT WHICH WERE NEEDED TO OPERATE UNDER MAXIMUM BASE SELF-SUFFICIENCY.

ON 20 MAY 1966, A JOINT COMMAND PANEL UNDERTOOK A REVIEW OF THE CURRENT MAINTENANCE PHILOSOPHY. ITS FINDINGS, RELEASED IN JULY 1966, EXPRESSED A CONVICTION THAT FOR THE PURPOSES OF DEPLOYED TACTICAL FORCES SUPPORT, A MORE OPTIMUM APPROACH TO BASE MAINTENANCE COULD BE DETERMINED. IN GENERAL, THE REPORT CONCLUDED THAT THROUGH SPECIFIC EXAMINATION OF THE SKILLS, EQUIPMENT AND PARTS REQUIRED TO REPAIR EACH RECOVERABLE ITEM, A LEVEL OF ECONOMICAL REPAIR AT BASE IN TERMS OF COST COULD BE DEFINED. UTILIZING THESE LEVELS, A DETERMINATION COULD BE MADE TO REPAIR THE ITEM AT BASE, CONDENSE IT, OR RETURN IT TO THE DEPOT FOR REPAIR. AS A RESULT OF THESE FINDINGS, USAF DIRECTED THAT A TEST OF THIS CONCEPT BE CONDUCTED IN A COMBAT ENVIRONMENT. THIS TEST, WHICH HAS BEEN NICKNAMED "PROJECT LOGGY SORT (SPECIAL OVERSEAS REPAIR TEST)", IS NOW BEING CONDUCTED IN SEA AND IS SCHEDULED FOR COMPLETION IN JULY 1967. ITS PURPOSE IS TO TEST THE VALIDITY OF REPAIR LEVEL DECISIONS AS THEY APPLY TO F-4C RECOVERABLE ITEMS. ADDITIONALLY, A VAST AMOUNT OF DATA IS BEING COLLECTED WHICH WILL BE USED IN DETERMINING THE SUPPLY, COMMUNICATION AND TRANSPORTATION METHODOLOGY TO BE USED IN SUPPORT OF THIS CONCEPT. IT IS HOPED THAT THE METHODOLOGY AND DATA GENERATED FROM THIS PROJECT WILL BE THE FOUNDATION STONE OF A BETTER APPROACH TO MAINTENANCE SUPPORT OF TACTICAL FORCES.

THE RESULTS OF THIS EFFORT MAY NOT HAVE A LARGE IMPACT UPON IN-BEING FORCES, BUT SOME OF THE ADVANTAGES THAT THIS CONCEPT MIGHT HAVE WHEN

APPLIED IN THE DEFINITION PHASE OF DEVELOPMENT OF FUTURE TACTICAL WEAPONS SYSTEMS ARE: COSTLY FIELD LEVEL TEST EQUIPMENT USED EXCLUSIVELY IN FIELD AIRCRAFT REPAIR MIGHT NOT BE DEVELOPED OR PRODUCED. IF THIS REPAIR IS ACCOMPLISHED BY AFIC DEPOTS INSTEAD OF IN THE FIELD, THE AFIC SYSTEM MUST PROVIDE A HIGH DEGREE OF CONFIDENCE IN ITS ABILITY TO SUPPORT ITS CUSTOMERS. IN ADDITION TO COST SAVINGS IN THE DEVELOPMENT AND PRODUCTION OF TEST AND REPAIR EQUIPMENT, THE LACK OF A REQUIREMENT FOR THESE ITEMS AT BASE LEVEL WILL ENHANCE THE MOBILITY OF THE DEPLOYING UNIT. ADDITIONALLY, BASE REPAIR PARTS INVENTORIES NEED NOT BE AS WIDE IN RANGE AS UNDER TODAY'S CONCEPT. THESE PARTS CAN BE MAINTAINED IN THE DEPOTS WHERE THE ASSEMBLIES ARE REPAIRED. THIS, IN TURN, WILL CONTRIBUTE TO A REDUCTION AS WELL AS BETTER CONTROL OF INVENTORIES. IN SHORT, LOGGY SORT IS NOT AN ATTEMPT TO MAKE A DRAMATIC CHANGE IN TODAY'S LOGISTICS SYSTEM. IT IS INSTEAD, AN ATTEMPT BY THE AFIC TO MAKE A CONTRIBUTION TO IMPROVEMENT OF TOMORROW'S MILITARY AND COST EFFECTIVENESS.

AIR FORCE

ITEMS & INVENTORIES ----- 31 DEC 66

	<u>ITEMS</u>	<u>INVENTORIES IN-USE</u>	<u>(\$ MILLIONS) STOCKS</u>
ENGINES	200	\$ 4,965	\$ 1,684
EQUIPMENT	76,000	6,324	540
AMMO	2,100		969
RECOVERABLE ASSYS-XD	78,000		4,886
EXPENDABLES	822,000		2,600*
<hr/> TOTAL	<hr/> 978,300	<hr/> \$11,289	<hr/> \$10,679
		<hr/>	<hr/>
		\$21,968	

ASSET KNOWLEDGE AND CONTROL

VISIBILITY